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Lafarre, Anne; van der Elst, Christoph

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SHAREHOLDER VOICE IN COMPLEX INTERMEDIATED PROXY SYSTEMS: BLOCKCHAIN TECHNOLOGY AS A SOLUTION?

Anne Lafarre* and Christoph Van der Elst**

ABSTRACT

Despite the great importance of shareholder engagement to date, the exercise of shareholder voting and other rights is substantially flawed. There are several different intermediated securities models used around the world that all drive a wedge between the issuer and the beneficial owner of the shares and the accompanying rights. In many jurisdictions including the US and the UK, the beneficial owner is not the legal owner of the securities, but rather an intermediary is considered the formal legal share owner. Other intermediated systems recognize the direct ownership of the investor, but impose a legal fiction on the number of intermediated tiers in the securities chain, ignoring practical holding chains (the Spanish system). This and the use of omnibus accounts at many levels in the (cross-border) intermediated chains have resulted in costly problems at the expense of shareholders, which are not solved by current regulatory initiatives.

Blockchain technology can address the main problems with the current intermediated proxy voting and engagement systems and facilitate the two largest needs in the intermediated chains today, namely i) the identification of shareholders by issuers and, ii) the end-to-end confirmation that the votes are exercised by the beneficial owners and are correctly included in the voting outcomes. Moreover, blockchains have the potential to solve pressing issues in the shareholder stewardship debate, for instance by increasing engagement between shareholders and companies on voting items that (potentially) receive large dissent rates, and making more transparent the role of proxy advisors in institutional shareholder voting decisions. However, because of the involvement of many intermediaries that may see

* Assistant Professor of Business Law, Tilburg University. This paper was drafted as part of the Blockchain & Procedural Law: Law & Justice in the Age of Disintermediation seminars convened by the Max Planck Institute Luxembourg for Procedural Law.

** Professor of Business Law and Economics, Tilburg and Ghent Universities.

in the introduction of blockchain a disruption of their existing business models, it is expected that reform may take a while in many markets, particularly without any serious harmonisation efforts. Consequently, involvement of regulators is key to achieving the full potential of shareholder voting and engagement using blockchains.

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INTRODUCTION

The two classical options for a shareholder with concerns about the management's conduct include selling their shares or voicing their concerns.¹ Whereas selling the shares, or exit, is an economic solution, voice is a political one that is considered more desirable from a corporate governance perspective.² The most important formal voice mechanism is shareholder voting. Of course, many scholars have discussed the economic problems related to corporate voting, including rational apathy and the unwillingness of small shareholders to vote and incur voting costs without having a chance to become the pivotal voter.³ However, shareholder voting has never been more important in corporate law than it is today.⁴ Institutional investors have become an important shareholder class, and the shares of many companies are aggregated in the portfolios of large asset managers. The spectacular increase in assets under management of large US institutional investors (including Blackrock, State Street and Vanguard), has forced these investors to expand their portfolios to foreign markets, leading to large ownership stakes in many markets around the globe.⁵

¹ See ALBERT O. HIRSCHMAN, *EXIT, VOICE, AND LOYALTY: RESPONSES TO DECLINE IN FIRMS, ORGANIZATIONS, AND STATES* (1970).

² See *id.* at 15-17.

³ See Frank H. Easterbrook & Daniel R. Fischer, *Voting in Corporate Law*, 26 J. L. & ECON. 2 (1983); FRANK H. EASTERBROOK & DANIEL R. FISCHER, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* (1996).

⁴ See Marcel Kahan & Edward B. Rock, *The Hanging Chads of Corporate Voting*, 96 GEO. L.J. 1227-1279 (2008).

⁵ See Edward B. Rock & Marcel Kahan, *Index Funds and Corporate Governance: Let Shareholders be Shareholders*, NYU LAW AND ECONOMICS RESEARCH PAPER No. 18-39 (Apr. 4, 2019).

Hedge funds, actively managed mutual funds, and the systematic institutional ownership have catalyzed the exercise of the shareholder voice. Hedge funds have strong incentives to take the lead in actions to overcome corporate performance issues, and if doing so does not result in a solution and corporate management resists, the institutional investors with their widespread ownership usually decide.⁶ In addition, large institutional investors can use their ownership portfolio to decide on market-wide corporate governance standards like CEO duality and ESG issues, for which their voting decisions are also largely influenced by their engagement policies and the voting recommendations of their proxy advisors.⁷

Several regulatory initiatives pressure institutional investors to exercise their voice, given their widespread presence in many companies. For instance, in the US, the fiduciary duty of private pension funds is defined by the Employee Retirement Income Security Act of 1974 (“ERISA”), and proxy votes are considered “rights which must be prudently exercised consistent with the interests of pension plan members and fund investors.”⁸ In addition, since 2003, mutual funds are required to disclose their proxy voting policies in the US.⁹ In Europe, the 2017 Revised Shareholder Rights Directive (“SRD II”) requires institutional investors and asset managers to disclose their engagement policies and the implementation of these policies on a comply-or-explain basis.¹⁰ Although there is no obligation to vote at the European level, this comply-or-explain provision also includes the disclosure of how these institutional investors have voted their shares and how they are conducting dialogue with their investees. Similarly, many stewardship codes such as those in the UK, Japan or the Netherlands recommend that institutional investors disclose their policies and vote their shares.

Despite the pivotal role of shareholder voting in today’s corporate governance, current shareholder voting systems are substantially flawed in many countries. Headlines of notorious cases in which proxy votes were counted wrongly and led to false voting outcomes (for instance, “P&G Climbs After Peltz Scores Surprise Board Victory in Recount,”¹¹ “Error

⁶ See Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism*, 113 COLUM. L. REV. 863 (2013).

⁷ See Rock & Kahan, *supra* note 5.

⁸ Also state pension funds, mutual funds, and endowments generally follow the ERISA rules. See Oliver Hart & Luigi Zingales, *Companies Should Maximize Shareholder Welfare Not Market Value*, 2 JOURNAL OF LAW, FINANCE, AND ACCOUNTING 247-274 (2017).

⁹ SEC, Proxy Voting by Investment Advisers, Release No. IA-2106, 68 FR 6585 (Feb. 7, 2003).

¹⁰ Directive (EU) 2017/828 of the European Parliament and of the Council of 17 May 2017 amending Directive 2007/36/EC as regards the encouragement of long-term shareholder engagement, 2017 O.J. (L 132/60).

¹¹ See Scott Deveau, *P&G Climbs After Peltz Scores Surprise Board Victory in Recount*, BLOOMBERG (Nov. 15, 2017),

distorts Yahoo vote on Yang”¹²), or even shares wrongly voted by mistake in structural decision matters (“T. Rowe Price Voted for the Dell Buyout by Accident”¹³) are widespread. Despite the current heavy focus on (institutional) shareholder voting and engagement, often also referred to as shareholder stewardship,¹⁴ there are not yet sufficient regulatory measures regarding these so-called “indirect” or “intermediated” holding systems. Already in 2008, Kahan and Rock warned about fundamental flaws in the US intermediated securities system in their seminal paper.¹⁵ The authors concluded that the system was “crude, imprecise, and fragile.”¹⁶ The US system, characterized by share immobilization and with record holder Cede & Company (the nominee of the US CSD¹⁷), was considered a temporary, sub-optimal solution at its introduction in the beginning of the 1970s, as the technology was not ready yet to establish a direct connection between shareholders and issuer.¹⁸ Even today, the basic structures of the intermediated systems remain the same. Across the Atlantic, the recent implementation of the SRD II and related Implementing Regulation in Europe has significantly increased attention on the flawed passing of information, communication and votes between issuers and shareholders, but likely did not establish the needed regulatory push for reform.¹⁹

<https://www.bloomberg.com/news/articles/2017-11-15/nelson-peltz-claims-p-g-board-seat-victory-after-vote-recount>.

¹² See Richard Waters, *Error distorts Yahoo Vote on Yang*, THE FINANCIAL TIMES (Aug. 5, 2008) <https://www.ft.com/content/18733ee6-633f-11dd-9fd0-0000779fd2ac>.

¹³ See Matt Levine, *T. Rowe Price Voted for the Dell Buyout by Accident*, BLOOMBERG (May 13, 2016) <https://www.bloomberg.com/opinion/articles/2016-05-13/t-rowe-price-voted-for-the-dell-buyout-by-accident>.

¹⁴ For instance, see Dionysia Katelouzou, *Shareholder Stewardship*, in THE CAMBRIDGE HANDBOOK OF CORPORATE LAW, CORPORATE GOVERNANCE AND SUSTAINABILITY 581-595 (Beate Sjäffell & Christopher M. Bruner eds., 2019).

¹⁵ See Kahan & Rock, *supra* note 4, at 1230-1231. The authors show that many voting outcomes on important corporate law decisions are very close to the simple majority threshold of 50 per cent. Particularly, they quote a Delaware lawyer who estimates that “in a contest that is closer than 55 to 45%, there is no verifiable answer to the question ‘who won?’”

¹⁶ *Id.* at 1279.

¹⁷ *Infra* Part I.B.

¹⁸ See David C. Donald, *The Rise and Effects of the Indirect Holding System - How Corporate America Ceded its Shareholders to Intermediaries* (Johann Wolfgang Goethe-Universität Institute for Law and Finance, Working Paper Series No. 68, 2007), https://www.ilf-frankfurt.de/fileadmin/_migrated/content_uploads/ILF_WP_068.pdf.

¹⁹ *Infra* Part II.C. See the Commission Implementing Regulation (EU) 2018/1212 of 3 September 2018 laying down minimum requirements implementing the provisions of Directive 2007/36/EC of the European Parliament and of the Council as regards shareholder identification, the transmission of information and the facilitation of the exercise of shareholders rights, 2018 O.J. (L 223/1).

Modern technologies may be used to improve the current US and European proxy voting systems. Many scholars²⁰ and stakeholders²¹ have already pointed to the usefulness of blockchains. For instance, blockchains can provide shareholders with end-to-end confirmation that their votes were indeed cast as they intended and were included in the voting result. However, despite numerous initiatives, there has not yet been any reform, and all publicly known trials are only at the proof-of-concept stage.²² It is unclear whether this has to do with limitations of the current blockchains available (or other suitable technological solutions), or whether the principal obstacles to reform are not of a technical but rather a political nature, or maybe blockchains are simply too costly.²³

This research addresses whether and to what extent technological reform using blockchains can indeed improve shareholder voting and engagement. In the next section, we first briefly discuss the current different systems of intermediated securities including the ownership of these securities. Afterwards, we turn to the discussion of the current shareholder voting systems. In section III, we discuss the current regulatory initiatives including the SRD II and its Implementing Regulation. We describe blockchains and link their merits and disadvantages to the current flaws in shareholder voting and engagement. We expand the discussion to the implications of blockchains for corporate governance and provide a conclusion.

I. INTERMEDIATED SECURITIES AND SHARE OWNERSHIP

If an investor holds a share today, there is usually no physical paper certificate involved. The investor also does not hold the security directly

²⁰ See David Yermack, *Corporate Governance and Blockchains*, 21 Rev. Fin. 7 (2017); Federico Panisi, Ross P. Buckley & Douglas Arner, *Blockchain and Public Companies: A Revolution in Share Ownership Transparency, Proxy Voting and Corporate Governance?* 2 STAN. J. BLOCKCHAIN L. & POL'Y 189 (2019); Christoph Van der Elst & Anne Lafarre, *Blockchain and Smart Contracting for the Shareholder Community*, 20 EUROPEAN BUSINESS ORGANIZATION LAW REVIEW 111 (2019); George S. Geis, *Traceable Shares and Corporate Law*, 113 NW. U. L. REV. 227, 227-278 (2018); Spencer J. Nord, *Blockchain Plumbing: A Potential Solution for Shareholder Voting*, 21 U. PA J. BUS. L. 706 (2019); LOUISE GULLIFER & JENNIFER PAYNE, *INTERMEDIATION AND BEYOND* (2019).

²¹ For an overview of initiatives, see Anne Lafarre & Christoph Van der Elst, *Legal tech and blockchain for corporate governance and shareholders*, in RESEARCH HANDBOOK IN DATA SCIENCE AND LAW 153-182 (Vanessa Mak, Eric Tjong Tjin Tai & Anna Berlee eds., 2018).

²² *Id.*; Van der Elst & Lafarre, *supra* note 20.

²³ Kahan and Rock argue that Broadridge, with its monopoly, has an incentive to oppose a reform that would undermine its position. Similarly, brokers also would have incentives to oppose change to protect their customer relationships and their current business practices involving securities lending. See Kahan & Rock, *supra* note 4, at 1279. Yet, Broadridge was actually among the first parties developing blockchain technology to improve shareholder voting. *Infra* Part III.B.

with the issuer. Instead, there is an intermediated holding chain with at least one intermediary—but usually more—between the issuer and the investor. The most important intermediary in virtually every jurisdiction is the (national) Central Securities Depository (“CSD”), which either provides the initial registration of the securities in a book-entry system, or provides and maintains the securities accounts at the top of the intermediated securities holding chain. For instance, the US system makes use of share immobilization, where immobilized security certificates are held by DTC and recorded as book-entry in its accounts. Another option is the use of dematerialized securities that are represented solely by an electronic book-entry register of securities. UNIDROIT published the Legislative Guide on Intermediated Securities²⁴ after having adopted the UNIDROIT Convention on Substantive Rules for Intermediated Securities, introducing a categorization of an intermediated securities system based on share ownership characteristics.

A. Domestic and International Situations

The UNIDROIT Legislative Guide on Intermediated Securities outlines the different systems of intermediated holding structures. These intermediated holding structures include systems with immobilized securities certificates held by the national CSD, and systems that use dematerialized securities represented only by a book-entry register kept by the national CSD. Although domestic intermediate holding chains can be simple in theory, where investors (the beneficial owners)²⁵ hold direct accounts with the CSD, in practice investor accounts are often maintained by other intermediaries holding direct or indirect accounts with the CSD. In addition, cross-border situations significantly add to the complexity of intermediated systems. Suppose that an investor is located in Country Y and the issuer in Country X. Usually, the issuer registers its securities with the CSD in the same country, in this case Country X.²⁶ The intermediaries in this country hold accounts with Country X’s CSD. The investor holds an account with its own intermediary in Country Y, and depending on whether this intermediary is (for instance) an international bank that has a direct connection with an intermediary in Country X that holds an account with the

²⁴ UNIDROIT is the International Institute for the Unification of Private Law.

²⁵ Beneficial owners herein are defined as the persons with the ultimate economic interest in the securities.

²⁶ The European CSD Regulation (“CSDR”) allows issuers to choose any CSD established in the EU for recording their securities (*infra* Part II.C), but in practice, usually the issuer selects the home-state CSD.

CSD of Country X, other intermediaries in Country Y and/or Country X are involved.²⁷

These intermediated securities systems involve many intermediaries adding substantial costs. However, there are more significant problems than large cost inefficiencies *per se*. End-to-end vote confirmations cannot be provided, there are inaccuracies in voting outcomes, and moreover, votes can be cast in conflict with the beneficial owners' voting preference. For operational efficiency, oftentimes so-called "omnibus accounts" are used, which are accounts that hold pooled securities on behalf of more than one investor.²⁸ These accounts create a "fungible bulk"²⁹ of securities,³⁰ making it difficult to identify proprietary interests of beneficial owners. Moreover, in many systems, the separation of legal ownership and beneficial ownership creates additional difficulties.

B. Five Different Ownership Models

UNIDROIT has identified five models of intermediated securities systems based on the ownership of securities in the chain.³¹ These are: i) the trust model; ii) the security entitlement model; iii) the co-ownership model; iv) the individual ownership model, and; v) the contractual model.³²

Under the *trust model*, which is practiced in for instance the UK, the securities are provided to the CSD who keeps the register, and the intermediaries holding an account with the CSD are considered the legal owners of the securities. Once those intermediaries credit the securities to their account holders' securities accounts, they act as trustees for the account holders, who become beneficiaries and receive a beneficial interest (also known as an equitable interest) in the securities. In the UK, Euroclear (with the CREST-system) is the CSD and has no proprietary rights in securities and thus does not hold the securities on behalf of its

²⁷ Or there can be an international bank from a third country involved, e.g. from Country Z, making the connection between the intermediary from Country X and from Country Y.

²⁸ See Victoria Dixon, *The Legal Nature of Intermediated Securities: An Insurmountable Obstacle to Legal Certainty?*, in INTERMEDIATION AND BEYOND (Louise Gullifer & Jennifer Payne eds., 2019).

²⁹ See Kahan & Rock, *supra* note 4, at 1243.

³⁰ Note that in accordance with European legislation, intermediaries are obliged to offer investors the option of a segregated account. *Infra* Part II.C.

³¹ See Dixon, *supra* note 28.

³² In the contractual model, investors do not acquire a bundle of proprietary interests to the securities, but instead acquire contractual rights vis-à-vis the relevant intermediary, making the intermediated system a bundle of bilateral contracts. We do not discuss this model further here as the beneficial owner's interests in most (major) jurisdictions are not considered contractual only.

accountholders;³³ instead, it maintains a register, and each member (usually custodians and other financial institutions) on this register holds the securities directly from the issuer and is the legal owner.³⁴ As the legal owner of the securities, the CREST-member is entitled to exercise voting, dividend and other shareholder rights. The member holds the securities on trust in (omnibus) accounts for its beneficial owners, who have a beneficial interest (also called an equitable interest) in the intermediated securities established by the chain of trusts. If there is yet another intermediary involved between the CREST-member and the beneficial owner, then this is the sub-trustee, who holds the beneficial interest in the securities on trust for its beneficial owners (which also may be in omnibus account).³⁵

In Australia, we can find another intermediated securities system following the trust model.³⁶ However, whereas intermediaries (including custodians) hold assets for their clients on a trust, there is no CSD involved for ASX-listed securities as these holdings are held directly on the issuers' records.³⁷ ASX uses the CHESS-system to both facilitate clearing and settlement of ASX securities and the record of these holdings. More specifically, to register shares on the CHESS-system, investors need to be "sponsored" by an authorised participant of the CHESS-subregister, which is usually a broker or settlement agent. Using a sponsorship agreement, these intermediaries operate the investor's holdings on the CHESS-subregister without affecting the legal share ownership.³⁸ These CHESS securities therefore are directly owned by the investor,³⁹ but still have a form

³³ See LAW COMMISSION, INTERMEDIATED SECURITIES: CALL FOR EVIDENCE (Aug. 2019), https://s3-eu-west-2.amazonaws.com/lawcom-prod-storage-11jsxou24uy7q/uploads/2019/08/6.5925_LC_Intermediated-securities-call-for-evidence-web.pdf.

³⁴ However, individual shareholders still had the option to hold paper certificates directly with the issuer, which remains a substantial amount in the UK. See BIS, *Exploring the Intermediated Shareholding Model* (BIS Research Paper Number 261, 2016).

³⁵ *Id.*

³⁶ UNIDROIT, *supra* note 24, at 19.

³⁷ See ASX, CHESS (2011), https://www.asx.com.au/documents/research/chess_brochure.pdf. See also Clearstream, *Market Structure Australia* (May 17, 2017), <https://www.clearstream.com/clearstream-en/products-and-services/market-coverage/asia-pacific/australia/market-infrastructure-australia-1281670>.

³⁸ Note that shareholders can choose to register their shares with CHESS or with an "Issuer Sponsored subregister," maintained by the company that issued the shares. Such subregisters are often administered by a third party (external registrars). *Id.* at 3.

³⁹ As the ASX explains: "CHESS shareholders are allocated a Holder Identification Number (commonly referred to as a HIN), which is similar in concept to a bank account number. Your HIN uniquely identifies you as the holder of shares on the CHESS subregister. Following your registration, ASX Settlement will send you a notification of your HIN. Keep this notification in a safe place as a record of your sponsor and your HIN. You should protect your HIN in the same way you protect your bank account number and not disclose it to anyone, unless required to do so in the normal course of business or by law." See ASX, *supra*

of intermediation (section 15 of the Personal Property Securities Act 2009 (“PPSA”) also regards these securities as intermediated).⁴⁰

In the US *security entitlement model*, the Depository Trust and Clearing Corporation (“DTCC”) is the permanent record owner for a vast majority of shares in the US.⁴¹ DTCC is also the formal owner of the stock and has two subsidiaries: Cede & Company, its nominee and record holder, and DTC, which functions as the CSD and where custodians and brokers hold accounts. Under Article 8 of the U.C.C., the beneficial owner is considered to be the holder of a “securities entitlement” in a “financial asset,” which includes shares.⁴² There are security entitlement holders at each level of the holding chain below the CSD. The beneficial owner has no ability to exercise any capital or control rights directly against the issuer, but the intermediaries at every tier pass on information to their account holders and exercise rights on their behalf. Intermediaries acting as custodians or brokerage firms hold omnibus accounts directly with DTCC.⁴³ Therefore, these custodians need to keep records of the shareholdings of their (institutional) clients. Only in cases where different custodians are involved when shares are traded, a bookkeeping adjustment must be made to DTCC’s omnibus accounts.

Under the *co-ownership model*, the beneficial owner has fractional ownership of a pool of securities that are deposited with the CSD. Securities are pooled and belong collectively to the beneficial owners, making it impossible to identify a particular beneficial owner’s holdings. This system is practiced in, for instance, Germany and the Netherlands. In the Netherlands, the majority of securities are held under the *Securities Giro Administration and Transfer Act* (Wge). Here, Euroclear Netherlands is the CSD that provides clearing and settlement activities required for security transfers. The beneficial owners hold securities accounts with their intermediaries (“affiliated institutions” under Dutch law), who in turn hold pooled securities accounts with Euroclear Netherlands.⁴⁴

note 37, at 4. For Issuer Sponsored subregisters, ASX explains that shareholders “will be allocated a unique Security holder Reference Number (also known as an SRN) by the relevant issuer. Your SRN uniquely identifies your holding on the Issuer Sponsored subregister. Unlike a HIN, your SRN will not identify any holdings on the CHESS subregister. Also, unlike a HIN, you will have a different SRN for each holding.” *Id.* at 5.

⁴⁰ See Personal Property Securities (Corporations and Other Amendments) Act 2011 (Cth), Explanatory Memorandum, 2.

⁴¹ Some references report 85 per cent of the shares. See, e.g., Nord, *supra* note 20. The term used for these shares deposited with DTCC is in “street name.”

⁴² UCC § 8-501(b); *id.* § 8-102(a)(9). See also Panisi, Buckley & Arner, *supra* note 20 (on the US intermediated securities model and share ownership).

⁴³ See Geis, *supra* note 20.

⁴⁴ The securities are kept in a collective deposit. In Dutch, this is called a “*verzameldepot*,” and the securities are part of a “*gemeenschap*.” To overcome the identification problems caused by these pooled accounts, *Stichting Communicatiekanaal Aandeelhouders* channeled

Due to the use of omnibus or pooled accounts in the aforementioned systems, they can be considered “non-transparent.”⁴⁵ In contrast, in the *individual ownership model* which is practiced in most European jurisdictions, including for instance in France, Spain, Italy, Denmark, Sweden and Finland,⁴⁶ the CSD and other intermediaries do not have any interest in the securities as the beneficial owner has legal, individual ownership over the securities that are located directly in the investor’s securities account.⁴⁷ For instance, in Spain, Iberclear (the Spanish CSD) keeps a register of securities and is also in charge of the clearing and settlement of transactions. An issuer needs to inform Iberclear when issuing securities so that these securities are recorded in the register of Iberclear, and if a transaction occurs between a buyer and a seller and the ownership of the seller and payments by the buyer are verified, the transfer occurs and the register is adjusted.⁴⁸ Beneficial owners cannot acquire proprietary interests unless specific securities have been allocated to their accounts in the second tier of this system. However, it is important to note that only a “two-tier” book-entry system is used in Spain. In the first tier, Iberclear maintains accounts for its account holders, whereas in the second tier, the custodians and brokers maintain accounts for their beneficial owners. Hence, the Spanish model assumes that there is an intermediated chain with only two ownership tiers: the account holders of Iberclear (first tier) and the clients of these account holders (second tier). This creates non-transparent and unclear situations for the beneficial owner below the second tier in the Spanish intermediated system,⁴⁹ let alone the many situations today that involve cross-border holdings.

Figure 1 shows an overview of the four discussed intermediated securities systems.⁵⁰

information and voting instructions between participating issuers and their participating shareholders for a number of years up to 2013. As of 2013, issuers are able to request information on the identity of their beneficial owners from the intermediaries that—as affiliated institutions—in turn hold securities account with Euroclear Netherlands. See Parliamentary Proceedings II 2008/09, 32 014, no. 3 (*Memorie van Toelichting*).

⁴⁵ UNIDROIT, *supra* note 24, at 25.

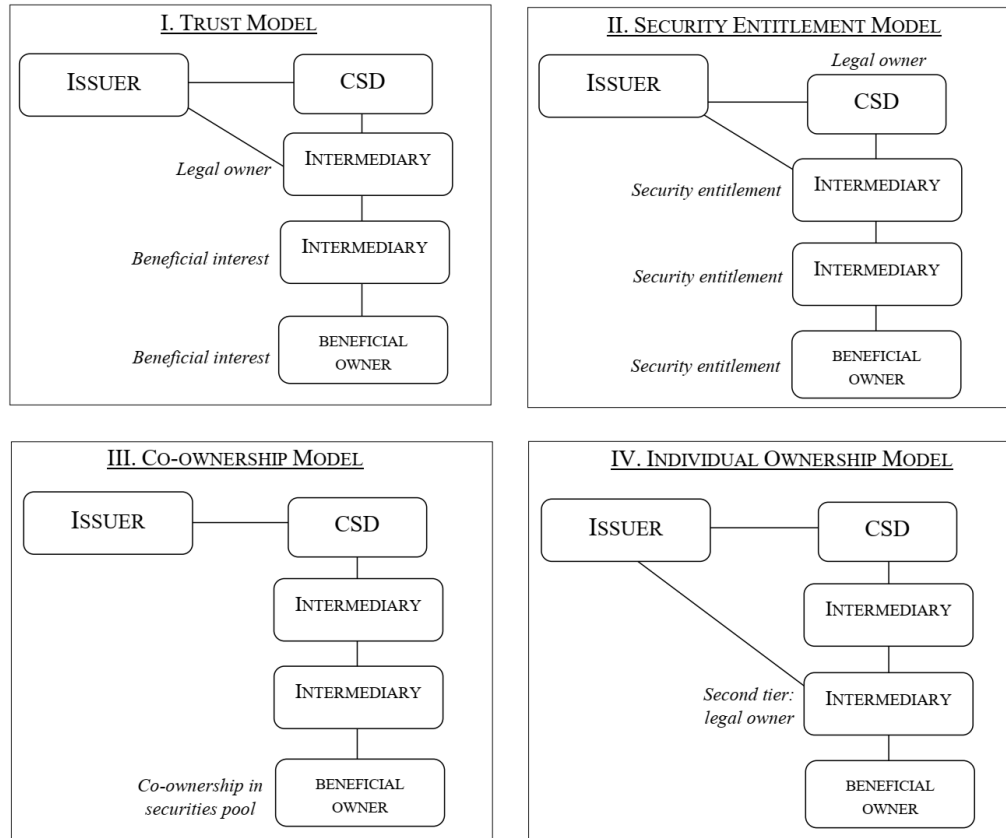
⁴⁶ But also Brazil, China, Norway and Japan. See Dixon, *supra* note 31.

⁴⁷ Note that those investors that wish to hold shares anonymously can hold their shares through a nominee.

⁴⁸ For more information, see *Securities Registration System*, IBERCLEAR, <http://www.iberclear.es/ing/Services/Securities-Registration-System> (last visited Sept. 2020).

⁴⁹ Francisco Garcimartin, *The Geneva Securities Convention: a Spanish Perspective*, in INTERMEDIATED SECURITIES: THE IMPACT OF THE GENEVA SECURITIES CONVENTION AND THE FUTURE EUROPEAN LEGISLATION 269 (Pierre-Henri Conac et al. eds., 2013).

⁵⁰ This figure is largely based on UNIDROIT, *supra* note 24, at 17-21. See also Victoria Dixon, *The Legal Nature of Intermediated Securities: An Insurmountable Obstacle to Legal Certainty?*, in INTERMEDIATION AND BEYOND (Louise Gullifer & Jennifer Payne eds., 2019).

Figure 1 – The Four Discussed Intermediated Securities Systems⁵¹

II. SHAREHOLDER VOTING RIGHTS

Investor ownership has two key elements that are embodied in shares: a right to control the firm, and a right to receive the firm's net earnings. Ownership here is defined as the entitlement to exercise the residual rights of control.⁵² Such residual control right exercised through corporate voting is important, as it allows shareholders to incorporate the unforeseen future and therefore has significant impact on outcomes *ex post*. However, the investor is not considered the legal owner of the security in many systems, and thus heavily depends on the significant number of intermediaries

⁵¹ Note that the Individual Ownership Model shown in this Figure is based on the Spanish model; for other countries that adopted an Individual Ownership model, like France, the Figure would be slightly different.

⁵² See John Armour & Michael J. Whincop, *The Proprietary Foundations of Corporate Law*, 27 J. LEGAL STUD. 437 (2007).

present in the chain to i) exercise the right to vote and include this voting decision in the voting results with the issuer, and i) transmit information—for instance on the shareholders’ meeting—between the issuer and the investor. In the next sections, the US and UK proxy voting models are briefly discussed.

A. Proxy voting in the US

Under Delaware law, at the record date, the persons who are listed as registered owners of the shares in accordance with the company’s books are entitled to receive the notice of and vote at the general meeting of shareholders.⁵³ In other words, Delaware law assumes that shareholders (“stockholders”) hold shares directly, which is not what happens in practice (the registered holder is Cede, the nominee of DTCC).⁵⁴ Firms use the list of registered owners to determine who is entitled to vote and exercise other shareholder rights; in turn, these registered owners can authorize others to vote on their behalf by means of a proxy pursuant to section 212(c) DCGL. Therefore, under Delaware law, issuers often do not know their beneficial owners (for those shares hold in “street name”⁵⁵) and depend on custodians and brokers to receive a list of the beneficial owners of the shares. Secondly, beneficial owners also depend on their intermediaries to obtain the proxy to vote “their” shares.

The US shareholder voting process usually contains the following steps: first, a corporation sending out its proxy materials (including the proxy cards, a proxy statement and the annual report) for a general meeting of shareholders involves receipt of a list of account holders from DTC, which includes an omnibus of all custodians and brokers that hold shares for their account holders. Next, the direct account holders (custodians, brokers) with DTC need to receive an omnibus proxy from Cede, which they in turn must provide to their account holders. These custodians also need to send the proxy materials to their account holders, which usually involves different levels in the intermediated chain, and collect and implement voting instructions and execute votes. These tasks, however, are usually outsourced to proxy services firms like Broadridge. In addition, beneficial owners like institutional investors often make use of proxy advisors that provide voting recommendations and transfer the voting instructions to the proxy services firm. Broadridge, or another intermediary, sends the proxies to a vote

⁵³ § 213 of DGCL.

⁵⁴ *Supra* Part I.B.

⁵⁵ *Supra* note 44.

tabulator (which may also involve Broadridge) that, finally, checks “the formal validity” of the votes.⁵⁶

Perhaps the most salient example of this complex and non-transparent system is the 2013 leveraged buyout of Dell Inc.,⁵⁷ where asset manager T. Rowe Price ended up casting its votes in favor of the buyout, despite its public opposition against this transaction, and therefore was not able to perfect appraisal rights. In T. Rowe Price’s case, State Street was the DTC account holder that received an omnibus proxy from Cede. State Street outsourced the task of collecting and implementing voting instructions from its account holders (including T. Rowe Price) to Broadridge with a power of attorney authorizing Broadridge to execute the proxies on State Street’s behalf. In turn, T. Rowe relied on Institutional Shareholder Services (“ISS”) for the submission of voting instructions, which was computerized and automatically generated default voting instructions (with a “yes” vote in case of any management-supported merger, as with the Dell leveraged buyout). T. Rowe Price voted against, yet the Dell shareholders’ meeting was adjourned three times, and with the third adjournment, the voting instructions of T. Rowe Price were deleted, automatically resulting in the use of the default voting instruction and thus a “yes” vote. This voting instruction was transferred from ISS to Broadridge, who also had received the voting rights from State Street (and in turn from Cede), and carried out the vote in the Dell merger.

Yet, more went wrong in the Dell case. A “stockholder” is the holder of record of stock in a corporation, and it is required that this stockholder continuously holds the shares through the effective date of the merger (section 262(a) DGCL). In the Dell appraisal litigation, this continuous holding requirement was not fulfilled. DTC issued certificates of shares in Cede’s name, but some custodians and brokers, including JP Morgan, only held certificates of shares issued in the names of their own nominees, and thus Dell’s shares were transferred to these nominees, and re-titled certificates were issued in their names. Dell argued that the continuous holding requirement was not fulfilled as this transfer resulted in new registered owners, and thus appraisal rights could not be exercised.

B. Proxy voting in the UK

⁵⁶ See Kahan & Rock, *supra* note 4, at 1236. The vote tabulator does not check whether these proxy votes reflect the voting instructions of beneficial owners.

⁵⁷ Re Appraisal of Dell Inc., No. C.A. 9322-VCL, 2016 (Del. Ch. May 11, 2016). See Van der Elst & Lafarre, *supra* note 20.

Intermediaries in the CREST register are considered the legal owners of the securities.⁵⁸ These intermediaries are also treated as shareholders under section 112(2) of the UK Companies Act 2006. This means that beneficial owners do not automatically have any shareholder rights and depend on their intermediaries to pass these rights.⁵⁹

Most issuers outsource the keeping of the shareholder register to an external registrar.⁶⁰ CREST members that appear on the register are thus the legal owners, but these members may hold securities for beneficial owners through a pooled or designated nominee. If there is a shareholder's meeting, issuers (via the registrars) send the meeting information including the meeting notice to the custodians recorded in the shareholder register.⁶¹ Section 333A UK CA 2006 requires issuers to provide an electronic address for receiving the proxy votes, which companies usually outsource to the registrar. Registrars collect proxy votes from individual investors, proxy advisors or other proxy voting intermediaries (which also can take place via the CREST system). Registrars also count the votes and compare them to the shareholdings recorded in the register. Proxy agents are usually situated somewhere in the proxy voting chain between custodian banks, investors and issuers and collect voting instructions particularly from smaller (institutional) investors and submit them to the registrar. Usually, institutional asset owners (or their asset managers) use proxy advisors, and often these proxy advisors engage with proxy agents and communicate voting instructions on the investors' behalf.

For large asset owners, the UK proxy voting system usually does not cause large problems although they are not the legal share owners, as they often appoint their custodian directly and hold a segregated account with their custodian. They also will directly inform the custodian about their voting instructions, which the custodian passes on to the registrar of the issuer.⁶² However, if an asset manager is involved that holds a pooled account for all its clients, and moreover, if these shareholdings are also pooled at the level of the custodian,⁶³ it is not possible to identify a particular investor's holding, which is usually the case for smaller

⁵⁸ There are also "paper shareholders" in the UK who directly hold shares with the company and thus also directly communicate with the company, and intermediary involvement is almost entirely excluded (except for the registrar that keeps the record of paper shareholdings). See BIS 2016, *supra* note 34; *supra* Part I.B.

⁵⁹ Apparently, many brokers do not pass these rights on to the beneficial owners. See BIS 2016, *supra* note 34, at 45.

⁶⁰ These parties include Equiniti, Capita and Computershare.

⁶¹ See Paul Davies, *Investment Chains and Corporate Governance*, in INTERMEDIATION AND BEYOND (Louise Gullifer & Jennifer Payne eds., 2019).

⁶² *Id.*

⁶³ See BIS 2016, *supra* note 34, at 91.

investment funds. In such a situation, there is a large potential for mistakes, and the role of the proxy agent becomes more important.

The *Eckerle v Wickeder*-case clearly shows the complexities of the UK voting system.⁶⁴ Following the approval of converting DNick Holding into a private limited company, minority shareholders started an appraisal procedure. Yet, DNick's shareholder register only included two shareholders; the CEO and the Bank of New York Depository (Nominees) Ltd (BNY). The minority shareholders were not considered shareholders ("members") of DNick following section 112(2) of the UK Companies Act,⁶⁵ *inter alia* resulting in the dismissal of the minority shareholders' appraisal.⁶⁶

C. Cross-border voting and harmonization efforts

In the aforementioned proxy voting systems, the beneficial owner is usually not the legal owner of the securities. Also given that in most jurisdictions a vast majority of intermediaries use omnibus accounts, both the beneficial owners and the issuers largely depend on the intermediaries in the chain to pass on information and voting rights. Kahan and Rock (2008) proposed the "Spanish" individual ownership model as a potential solution to the proxy voting issues in the US.⁶⁷ However, in this system, transparent recording for indirect holdings below the first two tiers is lacking, particularly for cross-border holdings.⁶⁸

Moreover, as soon as securities are traded cross-border, there may be a conflict between the different intermediated securities systems and the way they treat ownership. Some countries turn to hybrid intermediated securities structures,⁶⁹ while others simply treat the lowest domestic tier as the beneficial owners.⁷⁰ The problems of cross-border information transmission and voting instructions between shareholders and issuers in the intermediated securities systems are widely recognized in the European Union.⁷¹ The European Central Securities Depository Regulation

⁶⁴ *Eckerle & Ors v. Wickeder Westfalenstahl GmbH*, [2013] EWHC (Ch) 68. See Van der Elst & Lafarre, *supra* note 20. DNick is a UK Plc with its management and operations in Germany and traded on the Deutsche Börse.

⁶⁵ Stating that "[e]very other person who agrees to become a member of a company, and whose name is entered in its register of members, is a member of the company."

⁶⁶ See Van der Elst & Lafarre, *supra* note 20.

⁶⁷ See Kahan & Rock, *supra* note 4.

⁶⁸ *Supra* Part I.B.

⁶⁹ For instance, Germany uses the co-ownership model for domestic chains, but a trust concept for cross-border holdings. See Dixon, *supra* note 28.

⁷⁰ *Id.*

⁷¹ This started with the two Giovannini Reports, available at https://ec.europa.eu/info/publications/giovannini-reports_en.

(“CSDR”)⁷² introduced recording of securities in a book-entry form in the European Member States. The CSDR aimed at harmonizing requirements for CSDs and allows CSDs to provide their services on a cross-border basis. Yet, the Regulation does not harmonize the national corporate law systems regarding intermediated securities systems, but allows issuers to choose any CSD established in the EU for recording their securities and other relevant CSD services. However, contrary to a few exceptions,⁷³ CSDs typically still operate on a domestic basis within one country as legal models vary widely under domestic laws.⁷⁴ Article 3 CSDR holds that all securities of an issuer established in the EU should be represented in book-entry form as immobilization or subsequent to a direct issuance in a dematerialized form. The Regulation thus does not impose one particular method for the initial book-entry recording.⁷⁵ However, the Regulation explicitly adds that “[i]mmobilisation and dematerialisation should not imply any loss of rights for the holders of securities and should be achieved in a way that ensures that holders of securities can verify their rights.”⁷⁶

The Regulation further mandates in Article 38 that a CSD needs to keep records and accounts in such a way that it is possible to segregate the securities of an account holder from those of any other account holders, and moreover that enables an account holder to segregate the securities of any of its own clients. Article 38(5) adds that intermediaries (i.e., account holders with CSDs) need to offer their account holders “at least the choice between omnibus client segregation and individual client segregation, and inform them of the costs and risk associated with each option.” However, in practice, the use of omnibus accounts in the intermediated securities chain is still widespread. For instance, the UK Law Commission was told that “many brokers will not volunteer the possibility of a segregated account or explain the potential disadvantages of a pooled account.”⁷⁷

Cross-border voting issues were already recognized with the introduction of the first Shareholder Rights Directive (“SRD I”).⁷⁸ However,

⁷² Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012, 2014 O.J. (L 257).

⁷³ See, e.g., Euroclear France operating as a CSD for two Spanish issuers. *Euroclear expands service offering for European equity issuers*, EUROCLEAR (Sept. 20, 2019), https://www.euroclear.com/newsandinsights/en/press/2019/2019_mr-26-European-equity-issuers-service-offering.html.

⁷⁴ See Christopher Twemlow, *Why Are Securities Held in Intermediated From?*, in *INTERMEDIATION AND BEYOND* (Louise Gullifer & Jennifer Payne eds., 2019).

⁷⁵ See Preamble 11, Regulation (EU) No 909/2014, *supra* note 72.

⁷⁶ *Id.*

⁷⁷ See LAW COMMISSION, *supra* note 33, at 8.

⁷⁸ Directive 2007/36/EC of the European Parliament and of the Council on the exercise of certain rights of shareholders in listed companies, 2007 O.J. (L 157/87).

the SRD I provisions did not solve the existing information problems in these cross-border intermediated chains.⁷⁹ Accordingly, the Revised Shareholder Rights Directive of 2017 (“SRD II”)⁸⁰ aimed at improving the identification of shareholders, the transmission of information and the exercise of shareholder rights through the intermediated systems. Particularly, SRD II requires intermediaries to transmit information from the issuer down the intermediated chain, facilitate the exercise of voting rights, and, upon request by the issuer, to identify the beneficial owner and provide information regarding its identity to the issuer to facilitate shareholder engagement. Article 3c(2) adds that an electronic confirmation of receipt of the votes is sent to the person that casts the vote when votes are cast electronically. Hence, SRD II does not fundamentally change the intermediated securities systems in Europe by, for instance, ensuring direct connections between issuers and beneficial owners or harmonizing the current intermediated systems, but rather aims at establishing a more efficient cooperation between the different intermediaries in the existing chains. The Implementing Regulation outlines the minimum requirements for the identification of shareholders and the transmission of information and votes in the intermediated chains, indicating that any communication should, to the extent possible, be transmitted using electronic, machine-readable and standardized formats to ensure the interoperability and straight-through processing (Article 2 of the Regulation). Note that the SRD II defines “shareholders” in accordance with the law of the Member State in which the company has its registered office, leaving discrepancies in the implementation of SRD II and the interpretation of the Implementing Regulation.

III. SOLVING THE CURRENT PROXY AND ENGAGEMENT ISSUES

So far, it follows that the main problems with the current intermediated proxy voting systems include full reliance on many involved intermediaries i) by issuers as to the identification of shareholders, and ii) by shareholders for receiving proxies to vote their shares and the verification and confirmation that the votes are correctly included in the voting outcomes. Significant difficulties arise because of the widespread use of omnibus accounts and the cross-border nature of many holdings. Already in 2011, the

⁷⁹ For instance, the European Company Law Experts (“ECLE”) states that in cross-border situations, “[s]hareholders often are not informed about forthcoming shareholder meetings and cannot ensure that their votes are exercised through the chain of intermediaries. Typically therefore the voting rights remain unexercised.” See Paul L. Davies et al., *Response to the European Commission’s Green Paper ‘The EU Corporate Governance Framework,’* EUROPEAN LAW EXPERTS 19 (2011).

⁸⁰ See *supra* note 10.

ECLE stated that “[s]hareholders should be entitled to take part in the general meeting and cast their votes independently from any intervention of the securities depository system.”⁸¹ Blockchains may offer this solution and provide the needed transparency. Moreover, blockchains can overcome the current distance between issuers and shareholders and foster shareholder engagement.⁸² In a keynote address for the Council of Institutional Investors, Vice-Chancellor Laster already argued that blockchain technology can be considered a solution.⁸³ Also, the Implementing Regulation of SRD II seems to encourage the use of modern technologies, including blockchain technology.⁸⁴

A. Blockchains for Shareholder Voting and Engagement

A permissioned blockchain for shareholder voting operated by an issuer, at least in theory, only needs the (full) nodes operated by this issuer, the beneficial owners and the CSD, provided that the CSD has real-time information about the beneficial owners. However, in practice because of the use of omnibus accounts, the account information from account holders of every intermediary in the intermediated chain is needed to identify the beneficial owner. Therefore in practice, keeping in mind the current intermediated systems, every relevant intermediary will run a node, and depending on the type of system and the tier in which they are located, some of these intermediaries will also be the shareholder of record and, therefore, the legal owner.⁸⁵ The vote tabulator can be added, which tabulates the votes in real time. Another node that may be added is the financial markets authority of a particular jurisdiction to monitor compliance with the law.⁸⁶

⁸¹ See Davies et al., *supra* note 79, at 19.

⁸² See Panisi et al., *supra* note 20; Lafarre & Van der Elst, *supra* note 21; Van der Elst & Lafarre, *supra* note 20.

⁸³ See Travis Laster, CII Keynote Speech: The block chain plunger: using technology to clean up proxy plumbing and take back the vote (Sep. 29, 2016).

⁸⁴ The EC directly refers to “new technologies that could enhance transparency and trust,” which are two important characteristics of blockchains. See *supra* note 19.

⁸⁵ If all issued shares were directly recorded in the blockchain including all share transfers in real time, uploading a list of beneficial owners to the ledger would not be needed. Yet, given the complexity of many intermediated securities systems today, this probably is not feasible in the near future.

⁸⁶ The 2004 proposal of the Business Roundtable and Georgeson to reform the US proxy voting system largely resembles how blockchain technology can be used in the short term, actually long before blockchains were considered. This proposal maintains the issuance of omnibus proxies to the custodians and brokers, which are passed through to the beneficial owners. The key is that these intermediaries generate lists of the beneficial owners including the number of shares held at the record date, which are checked by a tabulator that integrates one list of shareholders who need to receive the proxy materials and are allowed to vote the shares. This integrated list is then made available to the company, which in turn can distribute the proxy materials directly to the beneficial owners. Beneficial owners return their proxies

Using such a permissioned blockchain, the process flow of a shareholders' meeting can be as follows.⁸⁷ Firstly, the corporation calls a shareholders' meeting and uploads the proxy materials in standardized form⁸⁸ to the ledger so that the information about the meeting is available to all participants in the blockchain (Step 1). It also sets the record date. Secondly, the relevant intermediaries upload a list of beneficial owners (beneficiaries in the UK, securities entitlement holders in the US) at every level of the intermediated chain to the ledger, who are provided access to the shareholders' meeting's proxy materials and with the required amount of (tokenized) voting rights (Step 2).⁸⁹ The ownership information should only be visible to the issuer (or the CSD or another intermediary depending on the architecture of the system) that provides the shareholders with the right number of tokenized voting rights. However, to meet transparency requirements in the several jurisdictions, particular ownership stakes may be disclosed.⁹⁰ Beneficial owners may vote these voting rights themselves, or appoint a proxy to vote on their behalf, until a certain cut-off moment (Step 3).⁹¹ To make other aspects of formal shareholder voice rights transparent as well, shareholder questions (and related answers) also may be recorded on the blockchain,⁹² as well as other information such as the minutes of the meetings if desirable. After the beneficial owners (or their proxy holders)

directly to the tabulator, and as a result, custodians and brokers (including Broadridge) are removed from the proxy votes collection and instructions process. *See* BUSINESS ROUNDTABLE, *Request for Rulemaking Concerning Shareholder Communications*, Petition 4-493 (Apr. 12, 2004), <http://www.sec.gov/rules/petitions/petn4-493.htm>. *See also* Kahan & Rock, *supra* note 4, at 1271.

⁸⁷ This analysis is partly based on the CSD Working Group on DLT, *General Meeting Proxy Voting on Distributed Ledger Product Requirements*, Nov. 2017, v.2.1. The first version was published in Spring 2017 and its current version was published in October 2017. This is a Consortium of Central Securities Depositories that formed a Working Group on Distributed Ledger Technology. The Consortium includes NSD in Russia, Strate in South Africa, SIX Securities Services in Switzerland, Nasdaq Nordic, and DCV in Chile. *See* Lafarre & Van der Elst, *supra* note 21, at 171-172.

⁸⁸ *Supra* note 75.

⁸⁹ Different identification systems for beneficial owners may be used on and off-chain. The CSD Working Group on DLT report suggests that the authentication process take place outside the blockchain environment, but the proof of authentication should be stored in the blockchain. *See* CSD Working Group on DLT 2017, *supra* note 90.

⁹⁰ Van der Elst & Lafarre, *supra* note 20, at 118-120 (Current Shareholder Identification Framework for the European transparency requirements).

⁹¹ Depending on the legal provisions in a particular jurisdiction, this can be the same moment as the physical (or hybrid) general meeting.

⁹² In Europe, shareholders have the formal right to ask questions in shareholders' meetings per Article 9 SRD I, *supra* note 81. Note that one of the main arguments against virtual-only meetings is that board members would be able to cherry-pick favourable questions. *Infra* Part III.C.

have cast their votes,⁹³ each of them can verify how their votes are cast and included in the tabulated votes (Step 4). Shareholders generally should be able to see only their own voting decisions and the voting outcomes to safeguard privacy. However, for institutional investors, it may actually be beneficial to show their voting decisions due to several regulatory requirements regarding the disclosure of their engagement behavior that exist in many countries nowadays.⁹⁴ Note that this blockchain-based shareholder voting system makes it possible to remove all intermediaries (like Broadridge) involved in the proxy votes collection and instructions process if all ownership information from different tiers is uploaded to the distributed ledger.

There are some clear advantages related to the use of blockchains in proxy voting. The most pressing information problem with the current proxy voting systems concerns the use of omnibus accounts so that no party involved has all information. This results in problems regarding the identification of beneficial owners through the chain by the issuer, and the ability of these beneficial owners to exercise their shareholder rights. Moreover, we have seen that existing discrepancies between legal and beneficial share ownership in large jurisdictions such as the US and the UK lead to material problems for shareholders.

Blockchains also make it possible to reconsider a number of fundamental issues in shareholder voting and engagement, including determining the optimal timing for the record date and notice period.⁹⁵ Blockchains also revive the discussions on the merits of virtual-only meetings and transparency requirements for institutional investors and proxy advisors.⁹⁶

B. Current Reforms

Over the past few years, there have been numerous media headlines on the use of blockchains for shareholder voting, including the launch of prototypes and test cases. For an overview of these initiatives, we refer to earlier work.⁹⁷ Here, we address the latest developments in the Australian

⁹³ Or even before, since vote tabulation is available real-time (for those shares that are voted on the blockchain), and shareholders do not all vote at the same moment. *See* Yermack, *supra* note 23. Further analysis is needed to determine whether this ledger for proxy voting can be merged with a settlement ledger. In the settlement ledger, buyers are added to the company's shareholder circle and thus should be included in the voting ledger, while sellers should be excluded. Note that in the ASX situation, this is not an issue. *Infra* Part III.B.

⁹⁴ *Supra* notes 8-10. *See also* Lafarre & Van der Elst, *supra* note 21, at n 63; Van der Elst & Lafarre, *supra* note 20.

⁹⁵ *Infra* Part III.C.

⁹⁶ *Id.*

⁹⁷ *See* Lafarre & Van der Elst, *supra* note 21; Van der Elst & Lafarre, *supra* note 20.

CHESS system transformation to a blockchain-based system together with Digital Assets Holdings, which according to the ASX must be concluded around April 2021.⁹⁸ Australia does not have a CSD for ASX-listed securities as these holdings are held directly on the issuers' records.⁹⁹ ASX uses the CHESS system to not only facilitate electronic and paperless settlement, but also to electronically register the ownership of shares.¹⁰⁰

In its Consultation Paper of April 2018 on the CHESS Replacement process, ASX indicated that it “will replace CHESS with a post-trade solution that provides users with more efficient clearing, settlement and other post-trade services [...]”¹⁰¹ This “post-trade solution” incorporates a permissioned blockchain.¹⁰² In addition to clearing and settlement, the Consultation Paper shows other features of the blockchain, *inter alia* providing proxy voting “for all relevant issuer meetings,” thereby indicating that “the record date relative to the meeting date will be standardised so that the record date will be a fixed number of business days prior to the meeting date.”¹⁰³ Furthermore, ASX writes that the blockchain “will streamline proxy voting processes by enabling electronic proxy voting, reducing the amount of paper and manual processes currently being used to facilitate proxy voting.”¹⁰⁴ However, there are also opponents to these initiatives by ASX. Some ASX stakeholders commissioned a report from Deloitte, which indicates that there are competition concerns with the operation of CHESS.¹⁰⁵ Two of these report funders are Computershare and Link

⁹⁸ See ASX, *CHESS Replacement Project Implementation & Transition Webinar 6* (Nov. 29, 2019), https://www.asx.com.au/images/newsletters/Implementation_Transition_Webinar_November_Final.pdf. Note that the latest developments through March 2020 are reflected in this research. On March 25, 2020 ASX announced that it “will consult on the implementation timetable for the CHESS replacement system” due to the COVID-19 pandemic, per <https://www.asx.com.au/services/chess-replacement.htm>.

⁹⁹ See Clearstream, *supra* note 37.

¹⁰⁰ See ASX, *supra* note 37.

¹⁰¹ ASX, *CHESS replacement: new scope and implementation plan*, ASX CONSULTATION PAPER (Apr. 2018), <https://www.asx.com.au/documents/public-consultations/chess-replacement-new-scope-and-implementation-plan.pdf>.

¹⁰² However, some sources indicate that there is no consensus protocol involved in this permissioned blockchain to verify transactions, which means that ASX is the only party that is able to write to the ledger, making it a private blockchain in more ways than just the entry requirements; other nodes have a read-only access, providing ASX full control over the blockchain. See Nicky Morris, *Australian Securities Exchange blockchain project gets political*, LEDGER INSIGHTS (2019), <https://www.ledgerinsights.com/blockchain-australian-securities-exchange-asx-digital-asset>. See also Chanticleer, *Alarm at ASX's blockchain Armageddon*, AUSTRALIAN FINANCIAL REVIEW (Oct. 22, 2019), <https://www.afr.com/chanticleer/alarm-at-asx-s-blockchain-armageddon-20191021-p532tc>.

¹⁰³ See ASX, *supra* note 101 at 37.

¹⁰⁴ *Id.*

¹⁰⁵ See Chanticleer, *supra* note 102.

Administration (external registrars),¹⁰⁶ which in their public Consultation Paper Responses in 2018 already expressed concerns.¹⁰⁷ These developments likely indicate that the principal obstacles to reform are political, as Kahan and Rock noted in 2008 for the US.¹⁰⁸ Although the Australian intermediated securities system for ASX companies (that uses the CHESS system to record holdings directly) is less complex than that in the US, different parties with different motives complicate the transition process. Another large intermediary, Broadridge—considered “the center of the spider web”¹⁰⁹ in the US—has been more active than most in the development of a blockchain-based system for intermediated securities. For instance, Broadridge received a US patent for its permissioned blockchain-based shareholder proxy voting initiative in May 2018,¹¹⁰ which was also used at the Banco Santander shareholders’ meeting in 2018.¹¹¹ As regards the ASX CHESS Replacement project, Broadridge indicated that it “has developed a blockchain-based network for global proxy voting” and “support[s] the ASX’s efforts to centralize proxy voting activity and the standardisation of record dates.”¹¹²

C. Implications for corporate governance

The potential of blockchains may well have significant implications for corporate governance. Firstly, a potential advantage is real-time transmission of the information and direct communication between issuers and shareholders. For instance, in the UK, proxy agents usually receive voting instructions continuously after the meeting notice, but wait to send the information to the registrar until shortly before the proxy deadline, which is oftentimes similar to the record date of 48 hours before the shareholders’ meeting.¹¹³ However, issuers would like to receive the information immediately when proxies are cast since “last minute engagement is of minimal value and likely to not lead to changes in issuers’

¹⁰⁶ *Supra* note 38.

¹⁰⁷ For instance, Computershare stresses concerns about ASX’s monopoly position, the role of the regulators, privacy concerns and data ownership and control. *See* Computershare, *Re: CHESS Replacement: New Scope & Implementation Plan* (June 22, 2018), <https://www.asx.com.au/documents/public-consultations/computershare-non-confidential.pdf>.

¹⁰⁸ *See* Kahan & Rock, *supra* note 4, at 1279.

¹⁰⁹ *Id.*

¹¹⁰ Broadridge filed the application on Nov. 9, 2017, per <http://patents.com/us-9967238.html>.

¹¹¹ Attracta Mooney & Nicholas Megaw, *Santander shows potential of blockchain in company votes*, THE FINANCIAL TIMES (May 17, 2018), <https://www.ft.com/content/c03b699e-5918-11e8-bdb7-f6677d2e1ce8>.

¹¹² *See* ASX CHESS Replacement – Consultation Paper Response, BROADRIDGE 5 (2018), <https://www.asx.com.au/documents/public-consultations/broadridge-non-confidential.pdf>.

¹¹³ *See* Davies, *supra* note 61.

policy or investor's voting decisions.”¹¹⁴ In contrast, “[t]imely and ongoing engagement allows for any clarifications to be made and helps to ensure that issuers have the support of investors.”¹¹⁵ Since blockchains would render the voting information instantly available for issuers, this could motivate both issuers and shareholders to increase their engagement and mutual collaboration.

Today, there is widespread use of remote voting in shareholders' meetings.¹¹⁶ This is not surprising *inter alia* due to the large portfolio sizes of many (passive) institutional investors, the international nature of shareholdings and the concentration of shareholders' meeting dates in a small period of time. Although it has reduced the practical importance of the physical shareholders' meeting, the current practice for most companies around the world is to have a physical venue, often reflected as a legal statutory requirement.¹¹⁷ Current technologies (not blockchains *per se*) already enable virtual-only shareholders' meetings,¹¹⁸ yet there are many (institutional) shareholder objections against these virtual-only meetings.¹¹⁹ Blockchains can help in overcoming these objections, allowing for transparency and certainty in shareholder voting and engagement.¹²⁰ This

¹¹⁴ *Shareholder Proxy Voting: Discussion Paper on Potential Progress in Transparency*, QUOTED COMPANIES ALLIANCE 2 (Sept. 20, 2015), https://www.theqca.com/article_assets/articledir_216/108296/QCAResponseToSVWG_ShareholderProxyVotingDiscussionPaper_Final.pdf. See also Davies, *supra* note 61. Note that for particular resolutions, issuers can be aware of large shareholder resistance in the current system based on proxy advisor recommendations.

¹¹⁵ *Id.* at 2.

¹¹⁶ Shareholders in most jurisdictions can participate remotely and appoint a proxy through electronic means, which has lowered shareholder voting costs substantially. See Jeffrey N. Gordon, *Proxy Contests in an Era of Increasing Shareholder Power: Forget Issuer Proxy Access and Focus on E-Proxy*, 61 VAND. L. REV. 475, 476 (2008).

¹¹⁷ This is the case for many continental European countries. Due to the COVID-19 pandemic, many jurisdictions are currently forced to adopt short-term regulatory solutions to allow virtual-only shareholders' meetings. See, e.g., Switzerland Article 6a on 'Meetings of Companies' of the *Verordnung 2 über Massnahmen zur Bekämpfung des Coronavirus (COVID-19-Verordnung 2)* (Mar. 16, 2020).

¹¹⁸ See, e.g., Marie Clara Buellingen, *Virtual Shareholder Meetings in the U.S.*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE (Oct. 10, 2019), <https://corpgov.law.harvard.edu/2019/10/10/virtual-shareholder-meetings-in-the-u-s>.

¹¹⁹ For instance, opponents of virtual meetings claim that board members may ignore their questions in shareholders' meetings, and that this is much harder to do at physical meetings. See Lisa A. Fontenot, *Public company virtual-only annual meetings*, BUS LAWYER 73, 35–51 (2017–2018). The COVID-19 pandemic may well boost the use of the virtual-only meetings. For instance, Glass Lewis advises clients to refrain from voting against board members if the virtual-only format is initiated by COVID-19, and appropriate disclosure standards are applied. See *Proxy Paper Guidelines – United States*, GLASS LEWIS 49 (2020), https://www.glasslewis.com/wp-content/uploads/2016/11/Guidelines_US.pdf.

¹²⁰ See Van der Elst & Lafarre 2019, *supra* note 20. Moreover, since blockchain technology enables direct information transmission between shareholders and issuers, decisions may not have to be made yearly, but when shareholder approval is needed.

shareholder engagement ecosystem can apply lessons from other blockchain ecosystems. For instance, with Bitcoin, developers may provide Bitcoin improvement proposals, which are studied and tested by the other developers. Once a consensus is reached, a proposal can be implemented.¹²¹

The fiduciary duties of institutional investors and their stewardship role in creating long-term value are the subject of many regulatory initiatives today. Blockchains in this respect do not only make it easier for institutional investors to exercise their voice and engagement with their investees directly, but also enable them to provide voting and engagement confirmation to their own ultimate beneficial owners. Also, the role of proxy advisors and to what extent institutional investors follow their recommendations will become more transparent with blockchains as these actions can be immediately visible and transparent for all parties in the distributed network.

CONCLUSION

Blockchains enable us to address the main problems with current shareholder voting and engagement—the identification of shareholders by issuers, and the end-to-end confirmation that the votes are exercised by beneficial owners and are correctly included in the voting outcomes. In addition, blockchains can bring forward timely solutions for pressing issues in the corporate governance debate, including not only the strengthening of relationships between shareholders and companies in controversial decision-making and enhancing the stewardship role of shareholders, but also in rendering the role of proxy advisors in institutional shareholder voting more transparent. However, because of the involvement of many intermediaries for whom the introduction of blockchain might lead to disruption of existing business models, we expect that reform can take a while, especially without any serious harmonisation efforts. It seems that the issues at stake largely involve political motives slowing down proof-of-concept trials. If ASX is able to keep its announced schedule and launch the blockchain-based clearing and settlement system in April 2021, this development may hopefully provide the needed positive push to regulators, and particularly issuers, in other markets.

¹²¹ See Jeffery Atik & George Gerro, *Hard Forks on the Bitcoin Blockchain: Reversible Exit, Continuing Voice*, 1 STAN. J. BLOCKCHAIN L. & POL'Y 24 (2018).